Surface immobilization of hexa-histidine-tagged adeno-associated viral vectors for localized gene delivery.

Journal: Gene Ther

Publication Year: 2010

Authors: J-H Jang, J T Koerber, K Gujraty, S R Bethi, R S Kane, D V Schaffer

PubMed link: 20508598

Funding Grants: Human Stem Cell Training at UC Berkeley and Childrens Hospital of Oakland

Public Summary:

Scientific Abstract:
Adeno-associated viral (AAV) vectors, which are undergoing broad exploration in clinical trials, have significant promise for therapeutic gene delivery because of their safety and delivery efficiency. Gene delivery technologies capable of mediating localized gene expression may further enhance the potential of AAV in a variety of therapeutic applications by reducing spread outside a target region, which may thereby reduce off-target side effects. We have genetically engineered an AAV variant capable of binding to surfaces with high affinity through a hexa-histidine metal-binding interaction. This immobilized AAV vector system mediates high-efficiency delivery to cells that contact the surface and thus may have promise for localized gene delivery, which may aid numerous applications of AAV delivery to gene therapy.